

DOCUMENT RESUME

ED 308 771

HE 022 740

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TITLE Distributing College Budgets: A Study of Local Education Authority (LEA) Planning and Formulae-Funding Mechanisms in England. AIR 1989 Annual Forum Paper.
PUB DATE May 89
NOTE 27p.; Paper presented at the Annual Forum of the Association for Institutional Research (29th, Baltimore, MD, April 30-May 3, 1989).
PUB TYPE Reports - Descriptive (141) -- Speeches/Conference Papers (150)
EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Budgeting; *College Administration; Community Colleges; *Educational Finance; *Financial Support; Foreign Countries; Governance; Institutional Research; Postsecondary Education; Vocational Education
IDENTIFIERS *AIR Forum; England; Wales

ABSTRACT

The Education Reform Act 1988 provides for the reform of the funding and governance of colleges of further education in England and Wales, comprising about 400 colleges (equivalent to community colleges and vocational schools) across 104 local education authorities (LEAs). The process and formula for budget-setting is described, and a number of issues raised by the new funding arrangements are explored, including: enrollments, institutional costs, program areas, program area weights, small and specialist colleges, monitoring and evaluation, and indicators of effectiveness (including enrollments and student completions of programs). Contains 5 references. (Author/KM)

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DISTRIBUTING COLLEGE BUDGETS:
A STUDY OF LOCAL EDUCATION AUTHORITY (LEA)
PLANNING AND FORMULAE-FUNDING MECHANISMS IN ENGLAND

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ABSTRACT

The Education Reform Act 1988 provides for the reform of the funding and governance of colleges of further education in England and Wales. In this paper we describe the process and formula for budget setting and explore a number of issues raised by the new funding arrangements.



for Management Research, Policy Analysis, and Planning

This paper was presented at the Twenty-Ninth Annual Forum of the Association for Institutional Research held at the Omni Inner Harbor Hotel and the Lord Baltimore Hotel, Baltimore, Maryland, April 30 - May 3, 1989. This paper was reviewed by the AIR Forum Publications Committee and was judged to be of high quality and of interest to others concerned with the research of higher education. It has therefore been selected to be included in the ERIC Collection of Forum Papers.

Teresa Karolewski
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Forum Publications Editorial
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DISTRIBUTING COLLEGE BUDGETS:
A STUDY OF LOCAL EDUCATION AUTHORITY (LEA)
PLANNING AND FORMULAE-FUNDING MECHANISMS IN ENGLAND

The Education Reform Act (ERA) 1988 (as supplemented by DES Circular 9/88) provides for the reform of the funding and governance of colleges of further education which are maintained or substantially assisted by Local Education Authorities (LEAs) in England and Wales. There are about 400 colleges of further education distributed across 104 LEAs. They approximate to community colleges and colleges of vocational education and training in the USA.

This paper arises out of a study which was commissioned by the Department of Education and Science (DES) and conducted by the Resources Intelligence Unit (RIU) of the Further Education Staff College (FESC). The aims of the project were:

- * to establish what work had already been done by LEAs to develop planning and formulae funding mechanisms compatible with the arrangements for financial delegation to colleges set out in the ERA; and
- * to analyse the material collected to draw out common themes and to identify any gaps or deficiencies which needed to be filled and rectified for the new regime to work effectively.

The study is reported in full in Birch, Latcham and Spencer (1989).

The Need for the Reform of Budgeting in Further Education

An earlier study commissioned by the DES and undertaken by the RIU (Birch, Latcham and Spencer 1987) had established that the budgeting process in further education could be characterised as follows:

- * the allocation of resources per FTE student varied significantly from LEA to LEA and even more from college to college (See Table 1);
- * this variation was partly explained by the lack of agreed standards of provision and resource allocation formulae;
- * the lines of authority and responsibility for planning and control were complex and overlapping with the result that the decision processes were cumbersome and the outcomes sometimes unrelated to the needs and concerns of the service and its clients;
- * in most cases budgets were determined by expenditure heads on an historic and incremental basis and had little connection with planned activity levels; and
- * control was exercised primarily through the budgets by expenditure heads coupled with virement and carry-over rules which were sometimes rigidly enforced.

There is a continuous cycle in resource management from budgeting to control to budgeting etc. In theory, at any rate, performance indicators ought to relate to resource allocation formulae which, in turn, ought to reflect resource utilisation. At the LEA level, however, the dominance of the historical and incremental approach to budgeting; the widespread distribution of authority and responsibility; and the complexities in, and

Table 1: Teacher and Non-Teacher Costs (£'s)
per FTE Student 1984/85

Expenditure Head	Range		LQ	Median	UQ
	From	To			
Teachers	719	3289	1252	1422	1640
Admin Staff	36	679	76	105	147
Technician Staff	19	828	104	138	208
Premises Related Staff	11	556	65	83	112
Premises	36	1809	174	231	322
Supplies & Services	43	1584	119	158	223
Transport	0.2	349	5	8	18
Established Expenses	0.7	453	30	41	74

the difficulties of, establishing the causal relationship (if any) between inputs and outcomes in education seemed to have discouraged the search for a more "rational" and integrated approach to planning and control. But management involves coping with complexity and, if necessary, constructing simple models which enable purposeful action. That part of the ERA concerned with financial delegation was intended to achieve this.

Financial Delegation under the ERA

The ERA places a duty on every LEA to prepare, and to submit to the DES for approval a scheme for:

- * the principles and procedures which the LEA will use to plan the provision to be made in its colleges;
- * the determination of an annual budget for each of its colleges based on a target FTE student workload; and
- * the delegation by the LEA of the management of the budget to the governing body of the college.

The budget setting process indicated in Circular 9/88 is as follows:

- (i) the LEA decides the total resources to be made available for further education in the colleges in its area: the "general colleges budget";
- (ii) the "excepted items" (see below) are then deducted from the general colleges budget to produce the "net pool of available resources";
- (iii) the resource allocation formula is then applied to distribute the net pool of available resources to each college - this produces the college's

"delegated budget"; and

- (iv) finally, such earmarked funds as the LEA wishes to pass to the college are added to the college's delegated budget to produce the college's aggregate budget.

It will be for governing bodies of colleges within the scope of delegation to decide how to spend their delegated budgets. The intention is to maximise the proportion of the general colleges budget which is delegated. Where items are excepted the funds should still be passed on to the colleges wherever possible in the form of earmarked allocations (i.e. identified sums for specific purposes) with the governing body given maximum discretion over their spending.

In the steady state excepted items may include:

- * LEA administration and advisory services;
- * development funds required by the LEA to promote, for example - curriculum development, marketing, research;
- * contingency funds;
- * specific grants from central government and the European Commission.

The Formula

Para 3.58 of Circular 9/88 reads as follows:

"A unit of resource per student can be obtained by dividing the total weighted student number allocations for all

colleges into the net pool of available resources. Multiplying the unit of resource by the combined weighted student number allocations for each college will establish its basic budget."

The logical sequence of steps implied here is as follows.

- (i) Agree target FTEs for each programme area across all colleges (where a "programme area" refers to a cluster of related courses; and a course refers in most cases to a coherent programme of study aimed at a particular qualification).
- (ii) Multiply target FTEs by the appropriate programme area weights.
- (iii) Sum weighted target FTEs across all programme areas and across all colleges.
- (iv) Divide net pool of available resources by the total weighted FTEs across all programme areas and all colleges to derive a unit of resource.
- (v) Multiply the unit of resource by the total weighted FTEs for a particular college to derive the delegated budget for that college.
- (vi) Add to the delegated budget such earmarked funds as the LEA wishes to pass on to that college to derive the college's aggregate budget.

This procedure is illustrated in Figure 1. It is clear from the procedure that the "unit of resource" is simply the result of dividing the total resources available by the target weighted student workload. It is not

necessarily related to a view of the resources required to produce a quality outcome.

Formula-based budgets can be expected to reduce the variation in unit costs between colleges within the same LEA. In the early years of operation they can also be expected to produce results which are significantly out of line in some cases with resourcing under the old historic incremental basis. Colleges may need time to adjust to the new regime. Accordingly Circular 9/88 provides that ... "If the budget derived by applying the formula is substantially lower than the budgets which a college has been receiving in recent years ... the reduction may need to be phased over more than one year." However, the DES would not expect such a phasing to last more than four years.

Issues

A number of issues have been thrown up by the ERA. Some of these are explored below.

Programme Areas

The DES does not wish to prescribe programme areas. "Colleges and LEAs vary greatly, and will need to work out for themselves what classification best suits existing and prospective patterns of work" (Para 2.21 Circular 9/88). In assessing the proposals, however, the DES will consider:

"whether the groupings are coherent academically and can be used to reflect appropriately the resource implications of different subject areas for the purpose of setting college budgets; and whether the groupings are more finely divided

Figure 1

CALCULATION OF UNIT OF RESOURCE

1. LEA in consultation with its colleges decides the weights (W_i) to be attached to programme areas.

Programme Areas			
	X_1	X_2	X_3
W	1.2	1.0	0.8

2. LEA in consultation with its colleges and others decides upon target student loads for each programme area.

Target student loads: FTE's			
	X_1	X_2	X_3
	1000	2000	1000

3. Weighted target student loads = target FTES x weights.

Weighted student loads			
	X_1	X_2	X_3
	1200	2000	800
	4000		

4. LEA decides "Net Pool of Available Resources" for FE

"Net Pool of Available Resources"
=
£10m

5. "Unit of Resource" =
Net Pool of Available Resources/Total weighted target student loads

£10m/4000
= £2500

than they need be." (Para 2.22)

Arguably the DES should have prescribed programme areas for this would have facilitated comparisons across LEAs. However, a survey of Authorities has revealed that the majority are, in any event, opting for one of two classifications: the major groupings of the Annual Monitoring Survey (AMS) or the Training Occupation Classification (TOC) of the Training Agency. These groupings are illustrated in an Appendix to this paper. Both the AMS and the TOC are related to a course coding contained in the Further Education Statistical Record (FESR) which is maintained by the DES. Insofar as LEAs may choose to adopt, amend or add to any of the two major classifications, or devise their own system of programme area, it is important that they do so by reference to the FESR course coding. Otherwise it will be difficult to map data from one classification to another as the need arises, or as central bodies require.

The strength of the AMS is that the only information available from which information on unit costs can be derived is provided by combining the AMS with the FERAS (Further Education Revenue Account Survey) database. Consequently if LEAs are to determine their programme area weightings by reference to relative costs, their only point of reference (other than whatever data they may have on relative costs within their own colleges) is to the AMS. The strength of the major TOC groupings is that the Training Agency requires the provision for work-related further education to be planned and monitored using this classification.

Some LEAs have queried how far either classification provides for the articulation of policies such as:

- * a policy to promote the participation of ethnic minorities;
- * a policy to encourage more part-time education and to open up access;
- * a policy that local residents/employers have first call on college facilities;
- * a policy to provide equal opportunities in education and training.

However, the DES believes that an attempt to plan, budget and control on three dimensions - programme area, mode of attendance and client group - would lead to target student number allocations at an unrealistic level of detail and would be unnecessarily complicated. Furthermore, under the ERA college governing bodies are allowed to vire their allocated student numbers from one programme area to another in response to student demand: the only constraint on colleges is that they should not "cavalierly disregard" the intentions of the LEA which remains responsible for strategic planning under the Act!

Clearly LEAs will need to consider the pattern of provision by client group and by mode of attendance: they will need to make assumptions about this pattern in allocating student numbers for each of their colleges: how else can they plan strategically? As part of their planning process LEAs will need to consider the likely patterns of demand/need by mode of attendance and by client group. As part of their planning process LEAs may wish to discuss with their colleges what patterns of provision are desirable across programme areas, and they will need to tell colleges what conclusions and assumptions about the pattern underlie the formal student allocations. If they so wish, LEAs will be able to use any central development fund to

provide colleges with incentives to develop provision for target client groups. And they may require colleges to provide data on the actual pattern of attendance by mode and/or by client group in sufficient detail to enable the LEA to monitor progress at the strategic level.

Programme Area Weights

The DES would prefer that programme area weights should reflect either current or projected cost relativities. But very little is known about the structure of costs at disaggregated levels in Further Education. In an attempt to obtain a feel for unit cost variations across major programme areas, the RIU undertook a multi-regression analysis using data obtained from the AMS return on FTE students for 1986/87 and the FERAS return on gross expenditure for 1986/87. The results are presented in Table 2.

Briefly the average unit costs for the total sample were:

Group 1 (Lab and Workshop-Based)	£2504
Group 2 (Classroom-Based)	£1908
Art and Design and Performing Arts	£2394

Based on these costs national average programme area weightings (rounded up to the first decimal place would be:

Group 1	1.3
Group 2	1.0
Art and Design	1.3

In the absence of data on unit costs many LEAs are agreeing their programme area weightings through a process of negotiation with their colleges. These negotiations ought to be informed by data on student staff ratios

(SSRs) which is more readily available than unit costs, and which is, in any case, more meaningful to teachers. Indeed insofar as teacher costs account for about 60-65% of total recurrent costs, the SSR is not a bad proxy for unit costs.

A weighting may be designed to channel resources to a particular area of work at a level above its resource needs in order to provide an incentive. Such a weighting would constitute a "steer". If a steer is to be effective, its message should be clear and easily understood. So that where LEAs do wish to use weightings as a steer, this would need to be clearly articulated so that all understand what is intended.

Small and Specialist Colleges

The formula implied in Circular 9/88 is of the form:

$$Y = bX$$

where Y = the delegated budget;

b = the unit of resource; and

X = the weighted FTE students.

As can be seen from Table 2 there is some evidence that the equation is of the form: $Y = a + bX$. Moreover, this seems to be particularly true for small and specialist colleges.

In an attempt to obtain another lead on this problem the RIU tested the effects of varying the attendance mode conversions and the programme area weightings through a simulation involving the distribution of £18m over six colleges. Briefly the budgets of mixed economy colleges varied very much as expected with a range of variation in the simulation from +7.9% to

Table 2: Regression of Gross Expenditure on FTEs

Y = gross expenditure
 X_1 = FTEs Group 1
 X_2 = FTEs Art and Design
 X_3 = FTEs Group 2

			X_1	X_2	X_3	
	Sample	a	b_1	b_2	b_3	R^2
* Specialist Colleges	26	678825 (242723)	2594 (569)	1427 (821)	6486 (2834)	0.53
* Non-Specialist Colleges	191	108188 (173250)	2503 (156)	2563 (574)	2046 (132)	0.83
* All Colleges	217	341130 (135957)	2504 (149)	2394 (506)	1908 (111)	0.85

Table 3: Size Factor

Size Factor: $\frac{\text{Total weighted FTEs in LEA}}{\text{Weighted FTEs in college } x}$

E.G. College	Weighted FTEs	Size Factor
A	1000	10.0
B	4000	2.5
C	5000	2.0
	<u>10000</u>	<u>14.5</u>

10% of general colleges budget of film to be distributed by size factor:

College	Size Supplement F
A	68,966
B	17,241
C	13,793
	<u>100,000</u>

-10.3%. For small and/or specialist colleges, however, the range of variation was from +99.1% to -19.6%.

The DES recognises that there may be factors other than student loads which significantly affect a college's financial needs. Such factors include:

- "* premises costs. Two colleges within the same LEA accommodate the same number of students but one has old expensive buildings on several sites while the other has purpose-built, economical premises on one site;

- * size. There may be economies of scale available to large colleges which are not available to small."

(Para 3.60 Circular 9/88)

To these examples we can now add specialist colleges; which apart from being (usually) small, by definition cover very few programme areas and are, thus, especially vulnerable to changes in programme area weightings.

Specialist colleges may be protected by assigning appropriate weightings to the relevant programme areas. But it is difficult to see how small (non-specialist) colleges may be protected other than by including an element in the formula to cover the costs involved in providing a wide ranging curriculum for relatively few students. One solution would be for LEAs to calculate a size factor and to distribute a proportion of the "general colleges budget" as illustrated in Table 3. The DES would expect the proportion of the general colleges budget distributed in this way to be kept to a minimum, however.

Monitoring and Evaluation

Under the ERA the LEA is responsible for the strategic planning and funding of further education. The LEA is also in a contractual relationship with the Training Agency for the delivery of work-related Further Education. Generally it needs to ensure proper accountability for the way public funds are spent; that the services for which it is responsible are run in an effective and efficient way; and that value for money is secured. Having regard to the duties and responsibilities of the LEA, the DES intends that college governors should have as much control as possible over their budgets. Under the Act they are entitled to spend their budgets "as they think fit for the purposes of the institution" (Section 142(6)). The powers accorded to governing bodies will include the power to exercise virement across all expenditure heads (except for earmarked items). They may also vary the pattern of course provision in whatever way they judge best to take account of developing needs and circumstances. (Para 4.11 Circular 9/88)

How can LEAs monitor and control effectively in these circumstances? In assessing the effectiveness of a college the first question for an LEA is - Did the college meet its agreed share of the LEA's strategic plan in terms of enrolments to programme areas? A first order test of performance at the programme area level of aggregation is the ratio:

$$\frac{\text{actual FTEs in programme area } x}{\text{target FTEs in programme area } x}$$

and a ratio significantly less than 1.0 should be a subject of discussion between the college and the LEA. The LEA will have concerns and policies with regard to access and equal opportunities etc. In order to monitor

progress an LEA will need data from its colleges not only by mode of attendance but also by those student characteristics - sex, age, ethnic background etc - which are perceived to be legitimate policy concerns.

As well as a comparison of actual student loads against target student loads the LEA would be concerned to monitor outcomes in terms of the effectiveness and efficiency indicators recommended by the Joint Efficiency Study (DES/Welsh Office 1987). These indicators are set out in Figures 2 and 3.

However, the DES is of the view that the LEAs concern is properly focused at the appropriate programme area level of aggregation. This means that data on completion, success and progression rates and the unit costs of these outcomes would not be available since they are meaningful only at the course level of aggregation. A way round this problem would be for LEAs to establish periodic educational audits carried out on a highly selective basis. These audits could examine data and ask discerning questions at lower levels of aggregation than the programme area. The auditors would need to take note of the procedures and processes established within the college to assure quality: they would also have access to the reports of external examiners and moderators.

In order to achieve effective budgetary control the LEA will also require:

- * (once the delegated budget is set) a detailed statement by the college governors of their spending intentions by expenditure head and cost centre (or by expenditure head and programme area); and

- * budget outcomes on a monthly basis in a format which matches the detailed college budgets set by the college governors.

In addition the LEA will require a full set of accounts covering the "commercial" activities of the college.

Para 2.42 of Circular 9/88 suggests that LEAs "may wish to consider stipulating in their schemes that each governing body should prepare an annual report incorporating most or all of the data the authority requires". Many colleges already publish annual reports. These documents often serve a marketing as well as an accountability purpose. They are intended to have a wide circulation and need to appeal to the lay reader. The needs of the LEA, however, may require a more detailed and technical report including a great deal of quantitative data. Much of this data requires careful interpretation and it would not be appropriate for it to be made generally available.

The ERA presents a formidable challenge to both LEAs and colleges. It is intended

- * to give colleges as much freedom as possible to manage their affairs and to allocate their resources as they think best within the strategic framework set by the LEA;
- * to promote responsiveness by colleges to the changing needs of students, employers and the local community;

Figure 2: Indicators of Effectiveness

- (i) **Enrolment**
i.e. number of students enrolled on the course/
course-year
Ratio: $\frac{\text{students enrolled}}{\text{target enrolment}}$
Comparator: target enrolment
- (ii) **Completions**
i.e. number of students completing the course/
course-year
Ratio: $\frac{\text{students completing}}{\text{students enrolled}}$
Comparator: target completion rate
- (iii) **Qualifications and examination success**
i.e. number of students on the course/course-year
gaining qualifications or passing examinations
(NB: includes students who "are allowed to
proceed in the normal course of events to the
next stage" of a multi-year course)
Ratio: $\frac{\text{"successful" students}}{\text{students enrolled}}$
Comparator: target "success" rate
- (iv) **Progression/destinations**
i.e. number of students progressing to further or
higher education or training or employment
following completion of the course
Ratio: $\frac{\text{students "progressed"}}{\text{students completing}}$
Comparator: target "progression" rate

Derived from para 4.24 Managing Colleges
Efficiently (DES 1987)

Figure 3: JES Efficiency Indicators

At college level of aggregation

- * ratio of FTE non academic staff to FTE students

At all levels of aggregation

- * SSRs
- * cost per FTE student

At course/course year level of aggregation

- * cost per "completing" student
- * cost per "successful" student

- * to promote good management and the effective and efficient use of resources;
- * to produce college budgets based on objective and equitable allocation of the available resources; and
- * to provide incentives to colleges to earn (and retain) additional income by providing courses and other services and facilities at full cost for the local community and, in particular, the business community.

All LEAs have to submit their schemes for delegation to the DES for approval by September 1989. Approved schemes will begin to be introduced by April 1990 and all schemes have to be fully implemented by April 1993. We may assess the success (or otherwise) of the reform at that time.

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MAJOR GROUPINGS OF THE ANNUAL MONITORING SURVEY (AMS) AND THE
TRAINING OCCUPATION CLASSIFICATION (TOC) OF THE TRAINING AGENCY

- AMS - Group 1 (lab and workshop-based)
including ancillary health, technology
and engineering, agriculture and forestry;
science and applied science; computing;
management and management science;
architecture and town planning; nautical
science.
- Art and Design
including music; drama; visual arts.
- Group 2 (classroom-based)
including mathematics; social, administrative
and business studies; catering and institutional
management; home economics, librarianship other
professional and vocational subjects; language and
related area studies; arts other than languages.
(3 "faculties").
- TOC(FE) - A : Administrative and Clerical
- B : Creative; Educational; Recreational
- C : Health; Community; Personal Service
- D : Selling; Storage
- E : Scientific (including mathematics)
- F : Hotel and Catering; Food Preparation
- G : Agriculture and related
- H : Fishing
- J : Transport Operating
- K : Construction and Civil Engineering
- L : Mining; Oil Extraction; Quarrying
- P : Motor Vehicle Repair and Maintenance
- R : Printing
- T : Security
- V : General Education
- W : Processing
- X : Engineering (17 major groupings)